## Physical and Mechanical Properties

<table>
<thead>
<tr>
<th>DOWEL DIAMETER</th>
<th>NOMINAL AREA</th>
<th>UNIT WEIGHT/LENGTH</th>
<th>LONGITUDINAL SHEAR STRENGTH PER ASTM D4475 SHORT BEAM SHEAR</th>
<th>TRANSVERSE SHEAR STRENGTH PER ASTM D7617 DOUBLE SHEAR</th>
<th>TRANSVERSE SHEAR STRENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm/in</td>
<td>mm²/in²</td>
<td>kg/m lbs/ft</td>
<td>MPA psi</td>
<td>MPA psi kN lbs</td>
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</tr>
<tr>
<td>16 5/8</td>
<td>198</td>
<td>0.307</td>
<td>0.447 0.30 42.1 6,100</td>
<td>151.7 22,000 30.0 6,754</td>
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<tr>
<td>19 3/4</td>
<td>285</td>
<td>0.442</td>
<td>0.566 0.38 46.9 6,800</td>
<td>151.7 22,000 43.3 9,724</td>
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<tr>
<td>25 1</td>
<td>507</td>
<td>0.785</td>
<td>0.967 0.65 58.6 8,500</td>
<td>151.7 22,000 76.8 17,270</td>
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<tr>
<td>32 1 1/4</td>
<td>792</td>
<td>1.227</td>
<td>1.563 1.05 58.6 8,500</td>
<td>151.7 22,000 120.1 26,994</td>
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<tr>
<td>38 1 1/2</td>
<td>1160</td>
<td>1.800</td>
<td>2.456 1.65 60.0 8,700</td>
<td>151.7 22,000 176.1 39,600</td>
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</tbody>
</table>

We reserve the right to make improvements in the product and/or process which may result in benefits or changes to some physical-mechanical characteristics. The data contained herein is considered representative of current production and is believed to be reliable and to represent the best available characterization of the product as of July 2011. Transverse shear test is per ASTM D7617 which has superseded the ACI 440.3R method B.4.

**MATERIAL PROPERTIES**

The "Shear Strength", typically the "Transverse" or "Double Shear" strength of the Aslan™ 600 Fiberglas™ Dowel product is determined using the ASTM D7617 method. "Longitudinal Shear" or "Short Beam Shear" subjects the bar to a three point loading fixture and measures the shear strength along the axis of the bar. This testing is performed per ASTM D4475.

### GLASS FIBER CONTENT

> 70% by weight per ASTM D2584

### MOISTURE ABSORPTION

24 hour absorption at 122°F (50°C) ≤ 0.25%, per ASTM D570

### SEALING OF ENDS

Not necessary

### GREASING OF FRP DOWELS

Not necessary

### TRANSITION TEMPERATURE OF RESIN $T_g$

> 230°F (110°C) per DSC method

### APPLICATIONS

- High speed tollways
- Jointed concrete paving
### Aslan™ 600 Fiberglas™ Dowel

<table>
<thead>
<tr>
<th>HB PART NUMBER</th>
<th>CONCRETE THICKNESS</th>
<th>DOWEL HEIGHT</th>
<th>DOWEL SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>in</td>
<td>mm</td>
</tr>
<tr>
<td>DBB1500-12-5</td>
<td>254</td>
<td>10</td>
<td>127</td>
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<tr>
<td>DBB1500-10-6</td>
<td>305</td>
<td>12</td>
<td>152</td>
</tr>
</tbody>
</table>

### Handling and Placement

Field cutting of Aslan™ 600 Fiberglas™ Dowels is generally not necessary. However, if required use a fine blade saw, grinder, carborundum or diamond blade. We use a diamond blade in wet bath for cutting the dowels. Sealing of Aslan™ 600 Fiberglas™ Dowel ends is NOT necessary. Greasing of Aslan™ 600 Fiberglas™ Dowels is NOT necessary (the bond strength to concrete is sufficiently low.)

When installing Dowels in the DBB1500-10-6 basket:

The following high strength structural adhesives are recommended for use.

- Press fit the Dowel into the opening.
- Tap the dowel into the basket from the end to secure the dowel into place.
- Attach the Dowels and baskets to the runners as required.

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